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JOURNAL OF

THE NEW ENGLAND BOTANICAL CLUB

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THE BOTANICAL AND OTHER PAPERS OF THE WILKES EXPLORING EXPEDITION.

Frank S. Collins.

The United States Exploring Expedition under the command of Charles Wilkes, U. S. N., started in 1838 and continued until 1842; the scientific results of the expedition were published in a series of volumes, the first in 1846, the last in 1874. In 1862 separates of the text and plates referring to the lower cryptogams are said to have been issued, with some plates representing phaenogams; the text for the former beginning with page 113; the text belonging to the latter, beginning with page 205, did not appear until 1874, when all were issued together as Vol. XVII, the title page bearing the double date 1862, 1874. In looking up the original descriptions of some species of algae published here, I found that the references to them by later authors were frequently erroneous, and I thought a note giving the correct references might be of use. While getting together the data for this I came upon some rather interesting facts in regard to other papers issued in the series, and my note has been gradually extended beyond the original plan. I will first give the results of my investigation as far as the algae are concerned, afterward and more concisely what I have found of interest as regards the rest of the series.

The work seems to be little known to writers on algae; it is not included in any of the bibliographies of De Toni, Sylloge Algarum, with the exception of a reference in Vol. I, p. IX, to the Diatomaceae, which occupy only 9 pages of the work; the reference is to Vol. VIII of the series, which is incorrect. In the very full synonymy and

lists of species inquirendae given by Bornet & Flahault[1] no reference is made to *Nostoc expansum*, described and figured in the Wilkes paper, p. 164, Pl. VI, figs. 1 & 2. Mme Weber-van Bosse,[2] however, cites the work, as do the Gepps,[3] but as will be seen later, the citations in both these cases must be revised.

Page 153 is the subtitle for the algae, and reads "Algae. By Jacob Whitman Bailey and William Henry Harvey," but whenever in the following pages the two names are given as joint authors of a species, the order, except among the diatoms, is reversed, being Harvey and Bailey,[4] which as will be seen later, is the correct form.

There is seldom anything to show whether a name appears here for the first time, either as a new species or as a new combination. A Latin diagnosis is sometimes given for a species attributed to some other author, without any citation; for instance *Gymnogongrus vermicularis* J. Ag.; on p. 164. Few synonyms are given, and in some instances they are printed exactly as independent species; for instance *Fucus vermicularis* Turn., on p. 164. Errors in spelling occur, like *Ectocarpus namulosus* for *E. hamulosus* on Plate VII. All these things tend to confuse the writer who wishes to cite from this work, but they are only the beginning of his troubles. One genus and four species, which have the appearance of being here published, had already been mentioned, with sufficient description, by Harvey; the genus *Chlorodesmis* in 1858,[5] *Dasya plumosa*[6] *Rhodymenia Wilkesii*,[7] *Gigartina mollis*,[8] *G. exasperata*.[9] No reference is made in the Wilkes paper to any of these earlier publications, with the exception of *Rhodymenia Wilkesii*, where we have in the text, p. 162, "A very

[1] Bornet & Flahault, Revision des Nostocacées Heterocystées, Ann. Sci. Nat., Ser. 7, Bot., Vol. VII, p. 177, 1888.

[2] A. Weber-Van Bosse, Monographie des Caulerpes, Ann. Jard. Bot. Buitenzorg, Vol. XV, p. 243, 1898.

[3] A. & E. S. Gepp, The Codiaceae of the Siboga Expedition; Siboga-Expeditie, Monogr. LXII, Leiden, 1911.

[4] The order "Bailey and Harvey" on the title, while the following species are "Harvey and Bailey," seems mere carelessness, but a possible explanation was suggested to me by an advertisement of a Philadelphia publishing house of a second edition of the narrative, Vols. I–V of the government issue. "Everything about this work will be STRICTLY AMERICAN...." It may have occurred to some one that it would not be STRICTLY AMERICAN to put the name of Prof. Harvey of Dublin before that of Prof. Bailey of West Point.

[5] W. H. Harvey, Nereis Boreali-Americana, part 3, p. 29.

[6] W. H. Harvey, l. c., part 2, p. 66, 1853.

[7] W. H. Harvey, l. c., part 2, p. 147.

[8] W. H. Harvey, l. c., part 2, p. 175.

[9] W. H. Harvey, l. c., part 2, p. 177.

fine species, quite unlike any of the genus hitherto described." and a footnote, p. 161, "For the reasons given in the Nereis Boreali-Americana, 2, p. 147, the name of this species must be changed to *Rhodymenia pertusa*, J. Ag., Sp. Alg. 2, p. 376. W. H. H." *Chlorodesmis* is characterized as "Nov. Gen.," p. 172, but on p. 173 we find "[A second reputed species of this genus is described and figured in Harvey, Ner. Bor. Amer. 3, p. 30–40, but that may possibly be a *Derbesia*. W. H. H.]"

That these things should be published as new in 1862, with references to earlier descriptions in 1853 and 1858, is not the worst; the one genus and four species mentioned above, with another genus *Notheia*, and twelve other species in the Wilkes paper of 1862, were all properly published by Harvey and Bailey in 1851![1] The species in question are, in addition to those already mentioned, *Notheia anomala*, *Nostoc expansum*, *Ectocarpus hamulosus*, *Chondrus uncialis*, *Gracilaria filiformis*, *Gymnogongrus* ? *dendroides*, *Gelidium unilaterale*, *Liagora hirta*, *Caulerpa falcifolia*, *C. Pickeringii*, *Dictyota bidentata* and *Chlorodesmis comosa*. The seventeenth species of the 1851 list is *Hypriea* (probably a misprint for *Hypnea*) *Coulteri*, which does not appear in the 1862 work. There is no mention whatever of this earlier paper in the later work, while in the Nereis, under *Rhodymenia pertusa* we find the synonym "*Rhodymenia Wilkesii* Bail. & Harv. in Bot. Expl. Exped. cum Icone, ined.," and under *Chlorodesmis* the remark "The genus *Chlorodesmis* was founded by the late lamented Professor Bailey and myself on an alga brought by Captain Wilkes from the Feejee Islands."

It is not difficult to understand why the Harvey and Bailey paper of 1851 has been forgotten. It is possible that a careful search would find authors who mention it, but the only instances in algological papers that have come to my notice are Setchell & Gardner,[2] and Tilden.[3] But the unfortunate fate that has pursued the Wilkes algae from the start seems to have extended to both of these references; Setchell & Gardner include both the 1851 and the 1862 papers in their

[1] W. H. Harvey & J. W. Bailey, Description of seventeen new species of algae collected by the U. S. Exploring Expedition, Proc. Boston Soc. Nat. Hist., Vol. III, p. 371.

[2] W. A. Setchell & N. L. Gardner, Algae of Northwestern America, Univ. of California Publications, Bot., Vol. I, p. 165, 1903.

[3] Josephine E. Tilden, A contribution to the bibliography of American algae, Minnesota Botanical Studies, Vol. I, No. XXIII, p. 295, 1895.

remarkably accurate list of works referred to, but the 1862 paper is said to be in Vol. XIII, not XVII, of the Wilkes Expedition reports. This is probably a misprint, but, as will be seen later, some of the memoirs of this series may be found in different copies with different title pages, and there may have been an error in the volume number in this case. Unfortunately, the question cannot now be settled, as the copy used was destroyed in the San Francisco fire.

Miss Tilden makes no reference to the 1862 paper, and omits Bailey as joint author of the 1851 paper, placing it under W. H. Harvey only; and the date is vaguely given as 1848–1851.

With our present recognition of the necessity of accuracy in matters of publication and citation, such baffling and misleading work would be little short of criminal. Even after making allowance for the looser treatment prevailing fifty years ago, it is difficult to understand it. The two genera in question have been subjects of considerable study and discussion, and the fact that a date of publication later than the true one has been assigned to them might have had serious results in nomenclature. De Toni's Sylloge is the index to which one naturally first refers when looking up matters of this kind. In Vol. I, p. 439, 1889, we find "*Chlorodesmis* Bail. et Harv. [1858] in Harv. Ner. bor. Am. III, p. 29." In Vol. III, p. 224, 1895, "*Notheia* Bail. et Harv. [1855] in Hook. Fl. of New Zeal. II, p. 215 et Botany of Wilke's Expedition (ined.)" These should now read Harvey & Bailey [1851] in Proc. Boston Soc. Nat. Hist., Vol. III, p. 371 & p. 373.

It may be of interest to note that specimens of many of the species, some of them evidently the individuals from which the plates were drawn, are in the herbarium of Brown University, Providence, Rhode Island, where Professor W. W. Bailey, son of J. W. Bailey, was for many years at the head of the department of botany.

When we look up the history of the whole work, the element of uncertainty and inconsistency that we found as to the paper on algae is still noticeable. The Act of Congress authorizing the work, under date of Aug. 26, 1846, provides for a series of volumes similar to those of the Voyage of the Astrolabe, to be issued in 100 copies, and distributed as follows: — one copy each to Captains Wilkes, Hudson and Ringgold, one to the Library of Congress, one to the Naval Lyceum at Brooklyn, one to each State of the Union, one to each friendly foreign power, and one additional copy each to France and Great Britain. The number of states increased during the period

from 1846 to 1874; whether the number of friendly foreign powers increased or decreased during this time, I have no idea; in any case the number available for general distribution must have been exceedingly small. In a communication from the Librarian of Congress, whose kindness in furnishing me important data in regard to the matter I gratefully acknowledge, is a statement which incidentally shows what might have been thus available, and at the same time shows that probably none were really available. A fire at Washington, April 11, 1856, destroyed about 21 copies of 18 of the volumes then in print, and of those destroyed only the narrative volumes and Vols. VI–VIII of the memoirs were replaced by a new impression. Probably none of the copies authorized by Congress ever reached the general public.

The General Catalogue of Government Publications by B. P. Poore, issued in 1885, at page 500 has a list of the volumes, but the fatality that seems to attach to the whole business extends to this also, and it is incorrect in at least one particular, so that I shall give instead the list made out for me by the Chief Bibliographer of the Library of Congress, adding the author's names, which were given in only a few instances in the list. Vols. I to V, with an atlas, contain the narrative of the expedition, were issued in 1844, and need not be here considered. They seem, however, to have attracted interest, and several editions, some in smaller and less expensive form, were issued soon after by publishing houses.

VI. Philology, Horatio Hale, 1846.

VII. Zoophytes, James D. Dana, 1846, with Atlas, 1849.

VIII. Mammalogy and Ornithology, John Cassin, 1858, with Atlas of same date.

IX. Races of Man and their Geographical Distribution, Charles Pickering, 1848.

X. Geology, James D. Dana, 1849, with Atlas, undated.

XI. Meteorology, Charles Wilkes, 1851.

XII. Mollusca and Shells, Augustus A. Gould, 1852, with Atlas, 1856.

XIII. Crustacea, Part 1, James D. Dana, 1852.

XIV. Crustacea, Part 2, James D. Dana, 1853, with Atlas, 1855.

XV. Botany, Part 1, Asa Gray, 1854, with Atlas, 1856.

XVI. Botany, Cryptogamia, William D. Brackenridge, 1854, with Atlas, 1855.

XVII. Botany (author's name not on title), 1862–1874, with Atlas, no title page.

XVIII. Botany, never published.

XIX. Geographical Distribution of Animals and Plants, Charles Pickering. In signatures, Boston, 1854.

XX. Herpetology, Charles Girard, 1858, with Atlas, same date.

XXI & XXII, Ichthyology, never published.

XXIII. Hydrography, Charles Wilkes, 1861, with two Atlas volumes, both 1858.

XXIV. Physics, never published.

This is the list of what we may call the official set, the 100 copies authorized by Congress; the volumes are sumptuously bound in full morocco, with elaborate ornaments stamped in gilt, eagles, sunbursts etc. The Massachusetts set can be seen in the State Library in the State House in Boston; it has all the volumes issued with the exception of Vols. XVII & XIX. The printed catalogs of the State Libraries of Ohio and California show very nearly the same, and the Rhode Island set, deposited with the Rhode Island Historical Society, is similar. I have not looked up other state sets, but it may fairly be assumed that they are nearly the same.

Soon after the work was authorized by Congress, protests came in from scientific and other societies against the limitation of the edition, providing no copies whatever for institutions or the public.[1] These were referred to the Joint Committee on the Library of Congress, which reported[2] recommending 400 additional copies, 285 to be distributed to institutions in the country, the remainder to be sold to the public. Congress ordered 5000 copies of this report to be printed, and then paid no further attention to it. Somewhat grudgingly, authors were permitted to have additional copies printed at their own expense, and this was taken advantage of to a varying extent by different authors; copies so issued are what one finds in various public and scientific libraries. When not rebound, they are in the ordinary black cloth of government publications of the period. Of Vol. VI there appear to have been printed 150 such copies, the responsibility being taken by the firm of Lea & Blanchard of Philadelphia. I do not think that over 100 copies were printed in this way of any other volume, and of some the number was less; in one or two

[1] See Cong. Doc., Vol. 476, No. 327; Vol. 533, No. 57 etc.
[2] Cong. Doc., Vol. 477, No. 405.

instances I cannot find that any extra copies were printed at all. The volumes of the official edition had no publisher's name on the title page, but only "Printed by C. Sherman, Philadelphia" or a similar form. Some of the copies of the public edition are the same, but others have various imprints. In most but not in all cases, the reverse of the title has "Printed by C. Sherman" or some form similar. These volumes were generally placed by the authors in the hands of some publisher, whose name appears on the title; sometimes the work was transferred from one publisher to another, and another title used. Being sold individually, volume numbers were often omitted, which was not unnatural, but it is not so easy to understand why in some cases a different volume number from that of the official edition should be used.

I have drawn up a list of these variations from the official set, in the copies I have examined in the libraries of Boston and Cambridge; it is probable that copies in other places will show additional variations. For the convenience of any one who may wish to inspect any particular form, I use initials to indicate the library, as follows:— BPL, Boston Public Library. NH, Boston Society of Natural History. BA, Boston Athenaeum. GH, Gray Herbarium. MHS, Massachusetts Horticultural Society. MCZ, Museum of Comparative Zoology.

Vol. VI. No volume number on title or back; BA, BPL. No volume number on title, Vol. VII on back; BPL, Barton Library.

Vol. VII. No volume number on title, Vol. VIII on back, Philadelphia, Lea & Blanchard, 1848; BPL, NH. The BPL copy has a slip bound in before the false title, dated December, 1847, and announcing the atlas, to be ready in the course of 1848.

Atlas to Vol. VII. Philadelphia, C. Sherman, Printer, 1849; BPL. Philadelphia, Lea & Blanchard, 1846; MCZ. Philadelphia, Lea & Blanchard, 1849; NH, BPL, Barton Library.

Vol. VIII. Philadelphia, J. B. Lippincott & Co., 1858, no volume number on title or back; NH. Two title pages, J. B. Lippincott & Co. on first, Vol. VIII; second title with no volume number, 1858, no volume number on back; BPL, MCZ.

Atlas to Vol. VIII. Philadelphia, J. B. Lippincott & Co., 1858; NH, BA, BPL, MCZ.

Vol. IX. Boston, Charles C. Little and James Brown, 1848; NH. Boston, Charles C. Little & James Brown. London, John Murray; 50 Albemarle St., 1858; BPL, two copies.

Vol. X. No date on title, no volume number on title or back, New York, G. P. Putnam; BA. No date on title, no volume number on title or back, New York, G. P. Putnam, 155 Broadway; London, Putnam's American Agency, 49 Bow Lane, Cheapside; MCZ.

Atlas to Vol. X. No date or volume number. New York, G. P. Putnam; BA. No date or volume number, New York, G. P. Putnam, 155 Broadway; London, Putnam's American Agency, 49 Bow Lane, Cheapside; BPL.

Vol. XI. Introduction, pp. (V)–LVIII, 25 diagrams. A printed slip is bound in at the title, signed "The author," stating that a few copies were printed for his friends; MCZ. I cannot find that the text of this volume was issued in other than the official set.

Vol. XII. Boston, Gould & Lincoln, 1852; BA, BPL. Boston, Gould & Lincoln, 1852, with 10 pages (*500–*509) "Addenda et Corrigenda" with date of May 20, 1854, bound in after the index, which ends with p. 510; original binding; N.H. The Massachusetts official copy and the Barton copy in BPL are like the BA copy, and have the additional 10 pages as a separate pamphlet.

Vol. XIII. Vol. XIII, part 1 on back, BPL, MCZ.

Vol. XIV. Title Vol. XIII, part 2, 1852; NH. Title and back, Vol. XIII, part 2, 1852; BPL, MCZ.

Atlas to Vols. XIII & XIV. NH, MCZ, BPL 2 copies, all like official.

Vol. XV. No volume number, New York, G. P. Putnam & Co.; BA, NH. No volume number, Philadelphia, printed by C. Sherman; GH. Vol. 14 on back, New York, G. P. Putnam & Co.; BPL.

Atlas to Vol. XV. No volume number, New York, G. P. Putnam & Co., Publishers, 1857; NH, GH, BPL, 2 copies.

Vol. XVI and Atlas. GH, BPL, like official.

Vol. XX. No volume number on title or back, Philadelphia, J. B. Lippincott & Co.; NH, BPL. The official copy has on the title "Prepared under the superintendence of S. F. Baird" which does not appear on the NH and BPL copies.

Atlas to Vol. XX. Philadelphia, J. B. Lippincott & Co.; NH, BA, BPL.

Of Vol. XXII and its two atlas volumes I have seen only the official copy.

The government catalog gives Vol. VIII by Cassin, but there was

an earlier Vol. VIII by Titian R. Peale. The official set has this as Vol. VIII, part 1, the Cassin volume being part 2. Peale was with the expedition in charge of the department of Birds and Mammals, and on his return prepared the plates and wrote the volumes of text. This was printed and distributed to the states and presumably to the foreign powers. Wilkes, who had taken on the superintendence of the publications, was dissatisfied with Peale's work, and arranged with Cassin to prepare a new volume in place of it. The copies which had been distributed were not recalled, but all remaining copies appear to have been destroyed, including the copy of the Library of Congress, which lacks this volume. I cannot find that any author's copies were printed, and it must be considered one of the rarest of scientific works. Some good ornithologists, to whom I wrote inquiring about it, had never heard of it. Two ornithologists, both of high authority, knew it; one writes me that the 100 or more new species described in it were properly reduced by Cassin to about 30; the other writes me that Cassin severely condemned Peale's descriptions, but modern ornithologists consider Cassin's descriptions little better.

The rarest of the botanical works is probably the Atlas to Vol. XVII, Ferns etc. by Brackenridge, but the reason for this rarity I do not know. Vol. XV, Phanerogamia, is sometimes found without the Atlas, and vice versa. Sabin,[1] states that by some mistake a large part of the edition of the plates was sold at auction, unbound, without the text. I can find no details as to this, but one copy of the Atlas in the Boston Public Library was presented by Leonard & Co., January 5, 1858. Leonard & Co. were leading book auctioneers in Boston for many years, and may have made the sale referred to.

To explain the non-publication of Vols. XVIII, XXI, XXII and XXIV would take much space and would bring up interesting but not specially edifying stories of inefficiency, extravagance and plunder, which when compared with present conditions, indicate that the standards in such matters are higher now than in the days of the fathers.[2] At the time the publication was authorized there was no National Museum, no Smithsonian Institution, practically no organ that could deal with scientific matters; Congress, probably with a vague feeling that literature had something to do with science, and

[1] Books relating to America, Vol. VII, p. 395.

[2] Details of dissensions following the expedition, and reports on manner of publishing will be found in Cong. Doc., Vol. 494, No. 47, Vol. 495, No. 217, Vol. 994, No. 391 and Vol. 1667, No. 60.

that a library had something to do with literature, put the matter in charge of the Joint Committee on the Library of Congress, with which it remained from 1852 to 1874, the date of the last issue. The committee, its membership continually changing, left the whole matter practically in the charge of Wilkes, who dealt with authors and printers much as he was accustomed to do with sailors and marines. The qualities that made him an excellent commander of an exploring expedition, accomplishing a work of lasting credit to the navy and the nation [1] were not suited to estimating the value of scientific memoirs. We have already seen how Peale's memoir was treated by him. William Rich, the botanist of the expedition,[2] prepared a volume on botany, which was never printed; Louis Agassiz two volumes on ichthyology, Gray a second volume on botany; the manuscripts of these are probably somewhere in Washington; but of course the long time since they were written would make their publication out of the question now. The Library of Congress claims to have a volume, without title, of the plates prepared for Agassiz's memoir. If printed at all, no doubt the 100 copies were printed, but the Museum of Comparative Zoology, Agassiz's own Museum, knows nothing of them.[3]

There is no evidence of anything dishonest on the part of Wilkes himself but the report of the Library Committee in 1876[4] shows that the greater part of the money appropriated, about $350,000.00 in all, had gone for "superintendents," the amounts for the work itself being in some years absurdly small. The disgust of Congress at these

[1] Dana, who had plenty of reasons to be dissatisfied with him as regards the publication, calls him "An excellent officer"; "Perhaps no better could have been found in the navy at that time." For a very good account of the voyage from a scientist's point of view, as well as of the curiously annoying restrictions Wilkes attempted to impose on the authors of the memoirs, see The Life of James Dwight Dana, Scientific Explorer, Mineralogists, Geologist, Zoologist, Professor in Yale University, by Daniel C. Gilman, President of Johns Hopkins University. New York & London, Harper & Bros., 1899. An indication of the change of conditions in the past 60 years is shown by Dana's comment on the one particular restriction that seems to have made him lose his temper, the ruling that the work should be done at Washington. "The absurdity of writing a scientific memoir in a city without books!"

[2] The botanist of the expedition was to have been Dr. Gray, who was regularly appointed and drew advance pay. For some reason he decided not to go. Interesting letters in regard to this are included in the volume of letters by Jane Loring Gray, Boston, 1893.

[3] The payments to the authors were liberal; according to the report of the Library Committee, Cong. Doc., Vol. 994, No. 391, such payments on the rejected or neglected volumes were Rich, $4,560.00; Gray, $3,000.00; Agassiz, $5,916.66.

[4] Cong. Doc., Vol. 1667, No. 60.

revelations led to an immediate stoppage of the work, without regard to the memoirs ready and waiting. The money sufficient to publish them had been appropriated over and over again but had been squandered.

My interest in the matter began with some references to Vol. XVII, and this volume deserves still further notice. Its fate was in some ways the most peculiar of all. This volume was intended to include the cellular cryptogams, as well as the phanerogams of the Pacific coast of the United States, the latter part having been assigned to Dr. John Torrey. His report was ready in 1861, but had not been published at the time of his death. Dr. Asa Gray added some notes, and in a short preface dated Washington, April 15, 1873, explained his relation to Dr. Torrey's work, and to some extent the circumstances of the twelve years delay since it was written. The lichens by Tuckerman, pp. 113–152, Algae by Bailey & Harvey, pp. 153–191, Fungi by M. A. Curtis & M. J. Berkeley, pp. 193–203, and the Torrey-Gray section, pp. 305–514, were issued in 1874, the title page bearing the double date 1862–1874. A note states that pp. 113–203 with the plates belonging to them and also the 17 plates of the Torrey-Gray section, were printed in 1862, and a small number of copies distributed. I have never seen one of these copies, nor has any of my botanical friends, and I have not found them mentioned in any catalog. Pp. 1–112 were assigned to the Musci, by W. S. Sullivant, but he apparently became tired of waiting for their publication by the government, and in 1859 issued an imperial folio atlas of 26 plates with 32 pages of text, corresponding to the missing pp. 1–112 of Vol. XVII. There is a copy of this at the Gray Herbarium. All the copies I have seen of Vol. XVII appear to be of the public or author's edition, the Gray Herbarium had the supply of these and of the Sullivant folio, but I believe they are now all sold. Some copies have the plates in a separate atlas volume, the same as the plates of the other memoirs in the series; more commonly the plates are folded, mounted on guards and bound with the text. No complete copy of the volume, with pp. 1–514, has been seen by me, but Dr. H. H. Bartlett was so kind as to look up at my request the copy in the Library of Congress; he reports it as complete, with a title page dated 1874, giving full statement of the contents; it has the full morocco binding of the official set. It is evident then that the whole volume was officially printed, but it was never distributed to the states, nor presumably

to the foreign powers. It is to be hoped that some one with influence enough to overcome the official inertia will have the missing ninety and nine brought forth from their hiding, and sent to their destinations.

As to Vol. XIX, the other one missing in the Massachusetts set, all the copies I have seen are of the public issue, and bear different publishers names, though all printed by C. Sherman. It is not likely that Sherman printed copies for the author but not for the government; probably the 100 copies of this volume might be unearthed in Washington by one who had time and energy for the work.[1]

The insufficient supply of these memoirs has been reduced below the original amount by fires, the loss in this way having been unusually heavy. I have already referred to the fire at Washington. There were losses in two fires at Philadelphia near that time, so that the official edition of most of the memoirs was reduced to about 70. Dana's volume on zoophytes was an exceptional sufferer; the original colored drawings were lost in one of the Philadelphia fires; most of the type specimens in the Chicago fire; and at two times, a fire at New Haven destroyed some of his own extra copies, the second fire taking all that was left. In ascertaining whether any other states had sets like that of Massachusetts, I have written to the State Librarians of Rhode Island, New York and Minnesota; of these the last two report that they had sets, but that they had been destroyed in conflagrations. It is not likely that the proportion is the same among the other states; but one cannot tell what a thorough round-up might show.

Malden, Massachusetts.

[1] In this connection see Cong. Doc. Vol. 994, No. 391, Report of the Committee on the Library on progress of publication. Under date of March 2, 1859, they say of Vol. XIX, ms. ready; maps made. The Boston Public Library copy has the signature of Theodore Parker with the date March 2, 1854. Other copies have title pages with dates varying from 1854 to 1863.

AN EARLY COLLECTION OF SALIX BALSAMIFERA.

M. L. Fernald.

On referring to the discussion of *Salix balsamifera* Barratt in Sargent's *Silva*, the writer recently noticed a statement which, by frequent repetition, has come to be strongly associated with the history of our knowledge of this unique species. The statement referred to:—"*Salix balsamifera* was first collected by Mr. Henry Little in August, 1823, on the bank of the Ammonoosuc River among the White Mountains of New Hampshire" [1]— originated with the late M. S. Bebb in 1879. At that time Bebb called attention [2] to Mr. Little's specimen preserved in the herbarium of the Academy of Natural Sciences of Philadelphia; but, although the type material of the species which is botanically of the greatest importance was collected by Sir John Richardson from "Lake Winnipeg and the Saskatchawan," [3] Mr. Little's earlier and long-overlooked collection of *S. balsamifera* has received such unusual prominence in the past third of a century as "the oldest herbarium specimen extant" [4] of the species that it is appropriate, for the sake of historical accuracy, to record a still earlier collection of this willow. And, just as the Little specimen of *S. balsamifera* lay in a public herbarium unrecognized and unrecorded for more than half a century, it is perhaps noteworthy that the earlier-discovered but heretofore unrecorded specimen was collected 120 years ago and until 1903 lay apparently unnoticed (at least undetermined) in the herbarium of the Muséum d'Histoire Naturelle at Paris.

In 1903 while examining the plants in the Michaux Herbarium the writer was interested to find this sheet of very characteristic foliage of *Salix balsamifera* bearing in Michaux's hand the label: "dans les marais de Batiscan." The species, presumably because represented

[1] Sargent, Silva, xiv. 64 (1902).

[2] Bebb, Bot. Gaz. iv. 190 (1879).

[3] Hook. Fl. Bor.-Am. ii. 149 (1839).

[4] "Here we have, I doubt not, the oldest herbarium specimen extant of *S. balsamifera*"— Bebb, Bull. Torr. Bot. Cl. xv. 122 (1888). "It was first discovered more than half a century ago among the White Mountains of New Hampshire"— *J.*, Garden and Forest, i. 246 (1888). "This fragmentary specimen he [Bebb] recognized as Salix balsamifera and realized that it was the earliest collection of the species."— Sargent, Garden and Forest, vi. 28 (1893).

only by foliage, was not described in Michaux's *Flora Boreali-Americana*, and in the herbarium the sheet had been left among the unnamed specimens following those which formed the basis for the *Flora*. The label, "in the bogs of Batiscan," gives the desired clue to the date of collection, for on the 14th of July, 1792, Michaux botanized in the bogs at Batiscan (in Champlain Co., Quebec) and there collected some very characteristic bog plants. His journal of that date reads: "Le 14 herborisé a 8 li. de distance des Trois Riv. dit Batiscan; plus bas Andromeda polifolia, Kalmia glauca, angustifolia; Azalea glauca [?], Ledum palustre [groenlandicum], Comarum. . . ."[1] Whether or not Michaux's material of *Salix balsamifera* gathered in 1792 is the earliest collection of the species, which is not improbable (although this willow is common in eastern Newfoundland and various regions of eastern Canada whence early collections of plants were carried to Europe), it is obvious that his material was collected thirty-one years earlier than Little's specimen from the White Mountains, the specimen which has so often been cited as the earliest collection of the species.

Gray Herbarium.

Bowman's Forest Physiography.[2] — Although written primarily for foresters and students of forestry, Professor Bowman's book will find an interested circle of readers among students of plant-geography, for in it are stated in clear and readable style the general physiographic features of the United States, with discussions of soils and climatic conditions, and much other matter which bears directly upon the distribution, not only of forests, but of other plants as well. The field-botanists whose interests lead them to the boundaries of physiography and geology are constantly in need of authoritative information upon these allied subjects and by them Bowman's *Forest Physiography* will be heartily welcomed. — M. L. F.

[1] Journal of André Michaux, 1787-1796, ed. C. S. Sargent (Proc. Am. Phil. Soc. xxvi. no. 129) p. 72 (1888).

[2] Forest Physiography. Physiography of the United States and Principles of Soils in Relation to Forestry. by Isaiah Bowman, Ph.D. 8vo. xxii-759 pp. 292 figs. and 6 plates. Cloth, $5.00 net. New York. John Wiley & Sons.

FIELD EXCURSIONS OF THE NEW ENGLAND BOTANICAL CLUB.[1]

As a result of the first field day of the New England Botanical Club, centering about Providence, Rhode Island, on May 30, 1911, the collections of the Club gained more than 800 specimens and several species not previously known from Rhode Island. This pioneer experiment of the members of the Club in making a concerted effort to develop the Club Herbarium was considered a great success, and the experience of last year justifies the continuance of such field days. The importance of such outings cannot be over-estimated, for not only does the Club Herbarium gain materially but the members have an unusual opportunity for congenial field-trips and exchange of experiences.

And now that the Club is so soon to have commodious quarters with fireproof cases and other up-to-date facilities for the development of its Herbarium, the ideal toward which we have been modestly working can be more readily accomplished. As already known to some members of the Club, the aim of our Curators has been to make our Herbarium thoroughly representative of the flora of New England: a collection which shall show the distribution of each species and variety in such detail that from it it will be possible to work out with exactness the natural floral areas of the region. No such herbarium for an extensive area exists in America and no such exhaustive study of a large area has been undertaken with us, but in some parts of Europe very gratifying results have been achieved, and in Great Britain the renewal of interest in such work, already well started by H. C. Watson and two Botanical Exchange Clubs, has recently become very obvious under the leadership of Dr. C. E. Moss of Cambridge University. There is no theoretical reason why we in New England should not bring together such a collection as suggested above; and when this aim is accomplished we shall be in a position to draw from our collections conclusions upon questions of plant-distribution which will be of far-reaching importance. It is too soon to outline with anything but the crudest approximation natural floral areas within our limits; such large districts as the Cape Cod region, the Housatonic Valley, the White Mountains, the eastern coast of Maine, etc. are known in a general way, but we certainly

[1] Communicated by the Committee on Field Excursions at the meeting of March 1, 1912.

have not the data by which to determine the exact limits of distribution on Cape Cod, for instance, of *Lespedeza angustifolia* or *Panicum oricola*; in the Housatonic Valley of *Salix serissima* or *Carex Crawei*; in the White Mountains of *Osmorhiza divaricata* or *Lycopodium sitchense*; or in eastern Maine of *Montia lamprosperma* or *Comandra livida*.

Every member of the New England Botanical Club who has aided in the preparation even of Check Lists by states, and all who have taken part in the more detailed work of the Committee on Local Flora realize how lamentably inadequate is the available material in both public and private herbaria; and all of us are cognizant of the constant and too often fruitless appeals from our corps of untiring workers for more data and specimens and for any information whatever from certain regions.

At the last accounting, May 31, 1911, the organized part of the Club Herbarium comprised, besides an encouraging start in Algae, Lichens, Mosses and Hepatics, 43,403 sheets of vascular plants. This figure at first appears large and it might seem that a collection of such proportions is ample for our needs. In fact we might be pardoned for congratulating ourselves upon the vastness of our possessions: the herbarium of the Middlesex Institute, the herbarium of the Metropolitan Park Commission, the private herbarium of the late Herbert A. Young, the Maine collections of F. Lamson Scribner, Elmer D. Merrill, Fred P. Briggs, Miss Kate Furbish and M. L. Fernald; the Berkshire County collections of Ralph Hoffmann, the Marthas Vineyard herbarium of Sidney Harris, and innumerable other collections, including the invaluable New England herbarium of Bryophytes and Lichens of Charles E. Faxon. But valuable as the Club Herbarium has already become, an analysis of its components shows that our present collections are merely a nucleus, about 8 %, in fact, of the material required for an adequate representation of the plants of the six New England states.

In the following analysis of the situation column A gives by states the number of mounted sheets of vascular plants in the herbarium on May 31, 1911; column B, the areas of the states; column C, the number of species and varieties of flowering plants and ferns known in each state; column D, the approximate number of species generally distributed in the state; column E, the approximate number of species of local occurrence in the state; column F, the approximate number of species in each area of 100 square miles; and column G, the approxi-

mate number of sheets the herbarium *should* contain adequately to display the vascular flora of New England. Properly to embody the element of distribution in our calculations the ratio of one specimen of each species to every 100 square miles of area has been used: the figure is entirely arbitrary but has seemed to your committee a conservative one. The figures given in column F are derived as follows from those of columns D and E. The plants represented by the figures in column E are of varying degrees of restriction. For instance, for Massachusetts such plants as the following have been included in this column: *Desmodium grandiflorum*, widely and almost generally distributed but unknown in the more silicious southeastern areas; *Senecio obovatus*, frequent in the western third of the state but rare eastward; *Betula nigra*, known only from the northeastern section; *Solidago macrophylla*, known only from Mt. Greylock; and obviously all plants of strictly coastal habitats. After considerable tabulation it has seemed reasonable to estimate that the plants of column E, the "local" plants, are found on the average over one tenth of the state. The figures in column F are, then, derived roughly by adding the figures in column D to those in column E divided by 10. In determining the number of species in columns D, E, and F one striking fact, which might readily be overlooked, has been clearly brought out: namely, that the larger the state or the more diverse its conditions the smaller the number of generally distributed species and the greater the number of local plants. Thus our largest state, Maine, with its fertile limestone Aroostook region, its alpine summits, and its sterile silicious southern counties, has only 604 generally distributed species (and the figure may prove too large) while, judging from the statements of ranges given in Brainerd, Jones and Eggleston's *Flora of Vermont* that smaller but more uniform state has about 950 generally distributed species.

	A		B		C	D	E	F	G	
State	No. of specimens in the herbarium	%	Total area in square miles	%	Number of species known	Species generally distributed	Species local	Approximate no. of species in each area of 100 sq. mi.	Approximate no. of specimens needed	%
Maine	21,937	50	33,040	50	2,100	604	1,496	750	248,000	47
New Hampshire	2,599	6	9,305	14	1,720	640	1,080	750	70,000	13
Vermont	2,071	5	9,565	14	1,724	954	770	1,000	96,000	18
Massachusetts	13,715	32	8,315	13	2,445	448	1,997	650	54,000	10
Rhode Island	802	2	1,250	2	1,670	650	1,020	750	10,000	2
Connecticut	2,279	5	4,990	7	2,228	868	1,360	1,000	50,000	10
Total	43,403	100	66,465	100					528,000	100

The table shows conclusively that our attempt to form a representative herbarium is only just begun and that a vast amount of collecting must be done in every state before our collections can be considered in any sense adequate. Massachusetts with a credit of 32 % of present material occupies the best position technically, while Maine, with 50 %, is nearly normal in relation to our desideratum of 47 %. From New Hampshire we have only 2599 specimens, comprising but 6 % of our present total. This is less than two specimens of each species known to occur in the state and obviously can show nothing more detailed than the fact that these plants are found in New Hampshire. Vermont is in an even less enviable position, but Rhode Island, our smallest state, is up to standard with its 2 %, although we have mounted and available only 802 sheets while more than twice that number of species have been observed in the state. Connecticut, too, needs our energetic attention. The flora of the state is unusually well worked out by the Connecticut Botanical Society but we have from Connecticut barely as many specimens as there are species known to occur in the state.

Obviously, those who are interested in this practical work of the Club must now begin active collecting for the Club Herbarium. The need is apparent; the facilities for the proper care of the collections have never been equalled. It is the opinion of your committee that one of the most effective ways of obtaining representative material in quantity for the herbarium is by means of field days in which many members of the Club will participate.

The second field trip of the Club — only the first of many in 1912 it is hoped — will be on Saturday, May 11, with a center at Greenfield, Massachusetts. The party will leave Boston (North Station) at 6.19 P. M. on Friday reaching Greenfield (106 miles from Boston) at 9.23. As on the Rhode Island trip the party will be divided into teams of two and each team assigned a certain district for exploration on Saturday. At 7 P. M. all will meet for dinner and will spend the evening in discussion of the afternoon's results. Those who wish can return to Boston on Sunday morning (leave Greenfield at 7.10 A. M., arrive at Boston at 10.25); those who care to spend more time afield can wait until an afternoon train and will find many attractive regions made available by the different railroad and trolley lines centering at Greenfield — the valleys of the Connecticut, Green, Deerfield, and Miller's Rivers, the trap ridges of central Massachusetts and the southern corners of New Hampshire and Vermont.

Although in our backward and sterile coastal areas there is little good botanizing as early as May 11, the experience of those who have been in the Greenfield region at that date justifies us in announcing that the following, besides many less attractive species, are in flower or fruit early in May: *Equisetum pratense, Cryptogamma Stelleri, Carex plantaginea, Luzula saltuensis, Alnus mollis, Asarum canadense, Clematis verticillaris, Hepatica acutiloba, Caulophyllum thalictroides, Dicentra canadensis* and *D. Cucullaria, Dentaria laciniata* and *D. diphylla, Mitella diphylla, Waldsteinia fragarioides, Dirca palustris, Lonicera canadensis, Viburnum alnifolium* and *Tussilago Farfara.* What more could be asked by the man weary of city life and longing for a real taste of spring?

As above stated the practice of last year will be continued of dividing the party into several squads operating independently within different areas. By this means much more can be accomplished than if the entire party goes to one place. More territory can be explored and the number of plants collected increased as many times as there are parties. Every plant in recognizable condition (whether lichen, moss, fern or flowering plant), especially the common things, should be taken (whether in flower or not). It is not necessary that the collectors determine the material. All that is asked is that each party make as complete a collection as possible in the region assigned keeping mental note of habitats and relative abundance and after pressing and drying the plants send them to the curators accompanied by labels (which the Curators will supply) with a record of habitat and relative abundance.

Here is a grand opportunity for every member to show his loyalty to the Club and his zeal for field-work. Let each of us, then, consider the excursions personal obligations and at comparatively small cost or inconvenience join this undertaking and enjoy a trip afield when Nature most invites us, and at the same time be of practical service to the Club in building up the collections upon which our detailed studies must inevitably depend.

The expense of the Greenfield trip for those who stay through Saturday and Sunday will be well under $10.00.

Members owning automobiles can render invaluable service by placing their cars at the disposal of the Committee. Several machines can be used to advantage.

The committee desires to know as early as possible how many are

specially interested in the Greenfield field excursions. Will those who plan to attend kindly *notify the chairman before April 15?*

A detailed announcement of trains, hotel arrangements, etc., will be issued later.

If the Greenfield trip proves satisfactory other similar outings will be arranged.

C. H. Knowlton,
Hingham, Mass.
M. L. Fernald
F. G. Floyd
} *Committee on Field Excursions.*

The New England Federation of Natural History Societies will hold its annual meeting Friday and Saturday, April 26 and 27, at the building of the Boston Society of Natural History. The exhibition will be open both days and there will be sessions Friday evening and Saturday morning.—J. H. Emerton.

REPORTS ON THE FLORA OF THE BOSTON DISTRICT,—XIV.

CYPERACEAE.

CAREX, L. TO N.

C. lanuginosa Michx. Swamps and low meadows, common.

C. laxiculmis Schwein. Rich damp woods; occasional near Boston, also found in West Newbury and Andover.

C. laxiculmis Schwein., var. **copulata** (Bailey) Fernald. Haycock Meadow, Medford (*Wm. Boott*, July 5, 1853).

C. laxiflora Lam. Rich woods and meadows; well distributed throughout, but not very common.

C. laxiflora Lam., var. **blanda** (Dewey) Boott. Abundant near Boston, also collected at Framingham; West Newbury, according to Robinson, Fl. Essex Co., 120, 180.

C. laxiflora Lam., var. **gracillima** Boott. Low woods, Cambridge (*M. L. Fernald,* June 10, 1891).

[C. LAXIFLORA Lam., var. LATIFOLIA Boott. There have been several reports of this variety from the district, but all the specimens so named which the committee has examined prove to be vars. *patulifolia* or *varians*. Var. *latifolia* apparently reaches its eastern limit in western New England.]

C. laxiflora Lam., var. **leptonervia** Fernald. Swampy woods, Boxford (*J. A. Cushman,* June 7, 1907); Waverly [Belmont] (*Wm. Boott,* June 9, 1861).

C. laxiflora Lam., var. **patulifolia** (Dewey) Carey. Well distributed.

C. laxiflora Lam., var. **varians** Bailey. Occasional near Boston (12 stations).

C. lenticularis Michx. Merrimac River, Dracut and Lowell (*C. W. Swan,* July 20, 1882).

C. LEPORINA L. Dry soil chiefly of pastures or roadsides; Long Island, Boston Harbor (*Wm. Boott,* July 6, 1871 and July 1, 1873, earliest reports); also West Newbury, Wenham, Lynnfield, Lexington, Hyde Park, Norwood, Dover, Framingham.

C. leptalea Wahlenb. Wet woods, meadows and bogs; well distributed throughout.

C. limosa L. "In a pond," Tewksbury (*B. D. Greene,* prior to 1836 — see Fernald, RHODORA, xiii. 246, 247); wet sphagnum bog, west side of Long Pond, Tewksbury (*Wm. Boott,* July 8, 1863, *M. L. Fernald & F. F. Forbes,* June 17, 1911); boggy shore, rather plenty, Sucker Pond, Framingham (*A. J. Eames,* May 29, 1908, and Aug. 5, 1911); bog by Ponkapaug Pond, Canton (*J. R. Churchill, W. Deane, G. G. Kennedy & E. F. Williams,* May 26, 1894).

C. livida (Wahlenb.) Willd. Boxford (*E. & C. E. Faxon,* June 20, 1878 and May 8, 1889); *Salix candida* swamp, Boxford (*J. Robinson,* May 30, 1890); calcareous meadows, Lynnfield (*M. L. Fernald,* June 16, 1907); Essex Co. (*Wm. Oakes,* no date).

C. lupulina Muhl. Wet places, common.

C. lupulina Muhl. var. **pedunculata** Dewey. Frequent throughout.

C. lupulina Muhl. × **lurida** Wahlenb. Medford Branch R. R. (*Wm. Boott,* July 15, 1866).

C. lupulina Muhl. × ?. Near North Braintree (W. P. Wilson,

August, 1877); West Quincy (J. R. Churchill, July 11, 1891). The above specimens seem to show traces of *Carex retrorsa* Schwein., but, as that species is unknown in this vicinity, it is not safe to pronounce upon the hybrid.

C. lurida Wahlenb. Wet places, very common throughout.

C. maritima O. F. Mueller. Brackish shores and salt-marshes, rare; Newburyport, Salem, Medford, Arlington, Cambridge.

C. mirabilis Dewey. Fields and open woods; well distributed in northern two thirds of district, but not reported elsewhere.

C. mirabilis Dewey, var. **perlonga** Fernald. Wilmington, Revere, Stoneham, Boston, Cambridge, Waltham, Norfolk.

C. Muhlenbergii Schkuhr. Dry sterile soil, common.

C. Muhlenbergii Schkuhr, var. **enervis** Boott. Malden, West Roxbury, Dover, Wellesley, Framingham, Milton.

C. MURICATA L. Dry fields and roadsides; abundant near Boston and Salem, also at West Newbury, Wayland and Holbrook.

C. novae-angliae Schwein. Moist open woods, rare; Billerica (*C. W. Jenks & C. W. Swan*, July 18, 1890); Purgatory Swamp,[1] Norwood (*Wm. Boott*, July 10, 1861; *C. H. Knowlton*, May 18, 1910); Blue Hills, Milton (*Wm. Boott*, June 3, 1870; *G. G. Kennedy*, June 15, 1899).

C. H. KNOWLTON
J. A. CUSHMAN
WALTER DEANE
Committee on Local Flora.

TWO LOCAL FLORAS.— We have received two local floras which are of special interest to New England botanists. Mrs. Flynn's *Flora of Burlington and Vicinity*[2] is a list of the vascular plants growing without cultivation about Burlington, Vermont. The flora is a large one, 1240 species, and to those who know only the upland country of Vermont a particularly interesting one from the large number of

[1] Purgatory Swamp has been located by various collectors in Dedham, Westwood and Norwood. The committee has located it in Norwood, until RHODORA XIII, 233–4, when by some misunderstanding it was accredited to Westwood. To settle the point once and for all, the town authorities of Norwood were consulted, and it was found that the property paid taxes in Norwood. Everett Street, which runs from Ellis Station to the Neponset River and on to Canton Corner, is in general the line between Westwood and Norwood. Small portions of Westwood lie south of this street, but the rich woods, the spring, brook, and swamp, are in Norwood.

[2] Flora of Burlington and Vicinity. A list of the Fern and Seed Plants growing without Cultivation, by Nellie F. Flynn (Contributions to the Botany of Vermont, IX). Burlington, Vt. 1911. 8vo. 124 pp.

coastal plain species which are localized on the sandy soil near Lake Champlain:— such species as *Woodwardia virginica, Pinus rigida, Polygonella articulata, Lupinus perennis, Polygala polygama, Bartonia virginica, Asclepias amplexicaulis, Artemisia caudata,* etc. In general style and typography the *Flora of Burlington* follows the Vermont Botanical Club's well known *Flora of Vermont* and like it represents intimate knowledge of the region covered.

In 1860 Hervey's *Plants found in New Bedford and its Vicinity* was published, in 1891 it was revised, and now its ever enthusiastic author, undaunted by the passage of fifty-one years since his first publication, brings his work to date as a revised edition of the *Flora of New Bedford and the Shores of Buzzards Bay.*[1] The *Flora* is modeled upon the former editions and happily contains the familiar and always interesting *Procession of the Flowers.* The author is to be congratulated upon the new edition of his standard work and upon a sustained activity which should be an inspiration to all lovers of out-of-door avocations.— M. L. F.

New England Trees in Winter.— The latest handbook of the trees is a practical volume by A. F. Blakeslee and C. D. Jarvis,[2] the text by Dr. Blakeslee, the illustrations by Dr. Jarvis. The keys look as if they would be usable and the plates are good halftones from wonderfully fine photographs showing the winter aspect of the tree, the bark, fruit and buds. In the technical genera only the commoner species are treated — for instance in *Salix* only *S. alba,* var. *vitellina* appears, while the (to most botanists) much more interesting *S. nigra, S. pentandra, S. lucida, S. balsamifera, S. discolor, S. rostrata,* and *S. viminalis* are unmentioned. But, with this omission of the more difficult or local trees understood at the beginning, the book cannot fail to be a popular one — its plates alone will be a delight to everyone who enjoys good illustrations. The body of the text is obviously the result of considerable compilation, the dimensions of the trees and the distribution of the species being "taken with little change from Dame & Brooks' Handbook." The latter book, at the date of its issue in 1901, was our most authoritative source of information on these points; but in view of the activity of New England botanists during the past decade, the reviewer cannot help wondering that an author or compiler in 1911 should ignore the extensions of ranges made since 1901. For instance, with information now available the detailed ranges of *Pinus Banksiana, P. resinosa, P. sylvestris,*

[1] Flora of New Bedford and the Shores of Buzzards Bay with a Procession of the Flowers. Revised edition, by E. W. Hervey. New Bedford, Mass., 1911. 8vo. 137 pp.

[2] New England Trees in Winter by A. F. Blakeslee and C. D. Jarvis. Storrs Agricultural Experiment Station, Bulletin No. 69. Storrs, Connecticut, June, 1911. 8vo. pp. 303–576, plates.

Picea mariana, Betula lenta, Ulmus fulva, Robinia Pseudo-Acacia, Acer Negundo, Tilia americana, Nyssa sylvatica, etc., are much better understood than they were ten years ago.

To those unacquainted with the source of information the statement under the range of the Slippery Elm: "In New England — Maine — District of Maine, rare," will be surprising for the "District of Maine" is not a portion of the state but was the recognized designation of the whole area in colonial days. Dame & Brooks, from whom Blakeslee derived his statement, had said: "Maine,— District of Maine (Michaux, *Sylva of North America,* ed. 1853, III, 53), rare." In the days when Michaux explored eastern America Maine *was* the "District of Maine." But in spite of slips and minor inaccuracies due to the method of preparation of the book it is, as already said, a very attractive volume and one which many New Englanders will be happy to possess.— M. L. F.

Salix serissima in southern Connecticut.— When the remarkable late-fruiting *Salix serissima* (Bailey) Fernald was discussed in Rhodora (vi. 3–8) in 1904 it was known in New England only from swamps of the Stockbridge limestone region of Berkshire County, Massachusetts and Litchfield County, Connecticut; and in the *Catalogue of Flowering Plants and Ferns of Connecticut* (1910) it is recorded only from Norfolk and Salisbury in northern Litchfield County. In the herbarium of the Agricultural Experiment Station at New Haven, however, there is a characteristic specimen (originally labeled *S. lucida*) collected by J. A. Allen in a "swamp near Westville, Ct., June 17, 1880." Westville is in southern New Haven County, very near the band of diabase dikes which extends from the central part of Orange to the eastern part of Woodbridge (see *Geology of Connecticut,* 113), and nearly fifty miles from the other known stations for *Salix serissima.* The occurrence of the shrub at this point suggests the probability that search will reveal it in other swamps near the diabase dikes of Fairfield, Bridgeport, Derby, Orange, Woodbridge, Seymour, Bethany, and Cheshire; for the rock of these dikes is composed of labradorite (a lime-soda feldspar) and pyroxene (containing magnesia, iron, and lime) and should furnish to the neighboring swamps a considerable amount of calcareous soil. The finding of *Salix serissima* at Westville suggests also the desirability of watching for it in swamps which receive drainage from the trap ridges of central Connecticut.— M. L. Fernald, Gray Herbarium.

Volume 14, no. 159, including pages 41 to 56, was issued 5 March, 1912.

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